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SALARY SURVEY: SMALL CHANGE FOR DP PROS

THE TRUTH ABOUT NETWORK MANAGEMENT

A REVOLUTION IN REMOTE DIAGNOSTICS

THIRD-PARTY MAINTENANCE

DATAMATION

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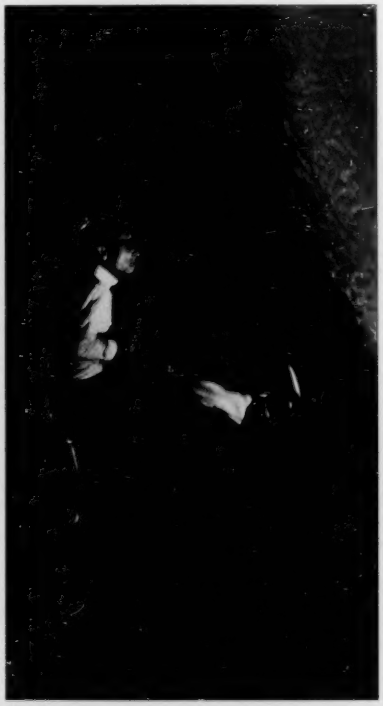
FEATURES

60
BEHIND THE NEWS
In the torrent of deregulation, corporations are mating madly. Ralph Emmett Carlyle answers the question on every dp manager's mind—"Mergers: A Raw Deal for MIS?"

72
SALARY SURVEY: SMALL CHANGE FOR DP PROS
Parker Hodges
Inflation is growing slowly, but so are paychecks. Systems analysis/programming managers make more than twice what their junior colleagues make. These and other findings within.



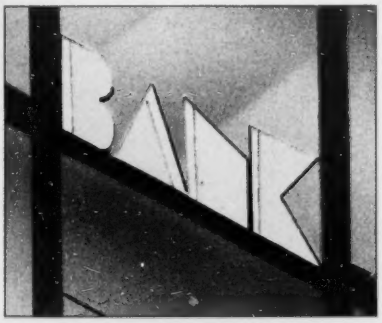
91
COMPUTER MAINTENANCE GOES ON-LINE
Omri Serlin
IBM pioneered the practical implementation of remote, on-line support. But other companies are leading the field in user self-service, computer aided dispatch, and remote console access.

98
SORTING OUT THE SOLUTIONS
Bill Musgrave
It seems that every other company in dp offers something for the network management market. Some see it from the host out, others from modems in. Here's one view.

109
SEI: THE SOFTWARE BATTLEGROUND
Edward J. Joyce
To many observers, particularly those in the computer industry, the controversy over the Software Engineering Institute's mission has nothing to do with its alleged Star Wars relationship or its military/academic mix.

121
THIRD-PARTY MAINTENANCE GROWS UP
E.S. Ely
As independent servicers broaden the range of equipment they can service, large corporations are jumping over to them in record numbers. The third-party firms now account for 10% of the $13.2 billion maintenance market.

128
IS HOME BANKING FOR REAL?
Efrem Sigel
To the banks, the arguments for electronic home banking are persuasive. For the customers, however, the arguments seem less convincing.



NEWS IN PERSPECTIVE

26 **ECONOMY**
Is the industry turning up?

28 **MANAGEMENT**
Users manage in the slump.

30 **OPERATING SYSTEMS**
AT&T answers Unix critics.

33 **COMMUNICATIONS**
Rough going for Rolm.

40 **ADAPSO**
What will happen after Dreyer?

44 **INFORMATION CENTERS**
Info centers emerge slowly.

48 **TRAINING**
The disabled in programming.

56 **BENCHMARKS**

68 **WORLDWATCH**

DEPARTMENTS

9 **LOOK AHEAD**
14 **CALENDAR**
19 **LETTERS**
23 **HARDCOPY**
139 **HARDWARE**
145 **SOFTWARE**
150 **ON THE JOB**
152 **LOOKING BACK**
157 **READERS' FORUM**
160 **ADVERTISERS' INDEX**

OEM SUPPLEMENT 68-1

(DOES NOT APPEAR IN ALL EDITIONS)

- 4 **BACK TO BASICS**

COVER PHOTO BY PETER ANGELO SIMON

Raises will be slimmer, but inflation's bite won't trim purchasing power.

SALARY SURVEY: SMALL CHANGE FOR DP PROS

by Parker Hodges

Times don't look good for big changes in dp salaries. Still, dp pros are optimistic about the shape of paychecks to come. With inflation at the lowest it's been since OPEC applied the first oil squeeze in 1973 (from May 1985 to May 1986 the consumer price index rose only 1.6%), Datamation's 5th annual salary survey reveals that dpers expect raises averaging 6% this year. This is slightly less than they got last year: 6.2%.

But there may be a fly in the ointment. In last year's survey, those surveyed had expected their salaries to jump 7.1%; the actual 6.2% increase was 15% lower. The increase puts dp workers just about at the average for salaried employees in the U.S. According to the Department of Commerce, income from wages and salaries in the United States rose exactly 6% from 1984 to 1985. The Department of Commerce predicts that wages and salaries for 1986 will increase just 4%, which may presage disappointment for dpers expecting bigger bucks this year.

For example, according to current hourly earnings in computer and data processing services in March 1986 were up just 4.5% over the year before.

Other forces as well are acting to hold down salary increases. According to Sandra Shaber, an economist with Chase Econometrics, Bala Cynwyd, Pa., the cost-cutting that began in manufacturing in mid-1984 is spreading rapidly to industries that provide services. Data processing is among those industries. An even gloomier note was struck by Shaber when she told Datamation that in the decades immediately following World War II, conventional wisdom had it that the

Predictions are that systems analysis will be among the top 20 fastest-growing careers in the U.S.

TAMING THE INFLATION TIGER

On a percentage basis, the raises you got this year and last probably pale compared with the ones you got back in the 1970s. Yet, you've actually been doing a lot better in the five years since 1981 than you did the five years before. Thanks to dramatically lower inflation in recent years, your spending power, while not as strong as it was before 1975, is coming back.

According to the U.S. Bureau of Labor Statistics, a wage earner making $10,000 in January of 1976 would need to make $19,210.27 in 1986 to command the same purchasing clout. Put another way, the effect of cumulative inflation on salaries from January 1976 to May 1986 (the last figures available from the bureau) is 92.1%.

Had the high year-to-year inflation rates of the late 1970s continued, the results would have been astronomical. From 1976 to 1980, the annual inflation rates were 6.5% ('76), 7.7% ('77), 11.3% ('78), 13.5% ('79), and 10.4% ('80). From 1981 through May of this year, the inflation tiger has been tamed significantly: 6.1% ('81), 3.1% ('82), 4.3% ('84), 3.6% ('85), and 1.6% this year.

In DATAMATION's 1976 Salary Survey, the average salary for a vice president of MIS was $32,500. That same position reported an average of $40,700 in 1981 and $58,800 this year. From 1976 to 1981, the impact of inflation was 60% while the position's annual average salary increased only 25%. For the five years following 1981, the position's salary increased 44.5% while inflation's cumulative impact was 21%.

So if you were a typical vp of MIS in 1976 and you received raises consistent with the norm for that position, your spending power in 1981 was only 65.5% of what it was in 1976. From 1981 to 1986, the buying power of the average vp of MIS increased 23%. Overall from 1976 until May of this year, that position's purchasing power declined 11.1%.

INFLATION'S BITE THE FIVE YEARS BEFORE 1981

(IN $)

	1976 SALARY	1981 SALARY	$ GAIN	% GAIN CORR. FOR INFLATION
MANAGEMENT				
Vp MIS	32,500	40,700	8,200	−34.5
Dir. Dp/MIS	27,300	32,100	4,800	−42.4
SYSTEMS ANALYSIS				
Manager	24,900	31,500	6,600	−33.4
Sr. Systems Analyst	20,300	23,000	2,700	−46.7
APPLICATIONS PROGR.				
Manager	22,300	28,500	6,200	−32.2
Sr. Applications Progr.	17,100	23,000	5,900	−25.5
COMPUTER OPERATIONS				
Manager	18,900	23,800	4,900	−34.1
Lead Operator	14,100	15,000	900	−53.7
Operator	10,500	13,300	2,800	−33.3

INFLATION'S BITE THE FIVE YEARS AFTER 1981

(IN $)

	1976 SALARY	1981 SALARY	$ GAIN	% GAIN CORR. FOR INFLATION
MANAGEMENT				
Vp MIS	40,700	58,500	17,800	+22.7
Dir. Dp/MIS	32,100	47,900	15,800	+28.2
SYSTEMS ANALYSIS				
Manager	31,500	40,400	8,900	+7.3
Sr. Systems Analyst	23,000	36,900	13,900	+39.4
APPLICATIONS PROGR.				
Manager	28,500	41,100	12,600	+23.2
Sr. Applications Progr.	23,000	30,800	7,800	+13.0
COMPUTER OPERATIONS				
Manager	23,800	30,100	6,300	+5.5
Lead Operator	15,000	19,900	4,900	+11.7
Operator	13,300	16,700	3,400	+4.5

economy of Great Britain, moving away from manufacturing, would flourish by furnishing services.) Nevertheless, according to CBEMA, one of the dp areas still showing healthy growth is outside data processing services, with 13.3% more employees in March 1986 than in March 1985. This trend suggests that user companies are shifting some of their processing load from in-house MIS to outside contractors.

Apparently, hefty raises aren't in the cards for most Americans this year. For example, a recent study conducted by the Administrative Management Society in Willow Grove, Pa., showed that office employees are averaging just 3.2% more in 1986 than they did in 1985, down from the 4.8% increase the society's survey discovered last year.

Nevertheless, throughout this decade, unlike the late '70s, salary increases and lower inflation have given information processing pros increased purchasing power each year (see "Taming the Inflation Tiger"). For comparison's sake, the actual purchasing power of American factory workers has dropped 5% since 1978 and that of construction workers has fallen by 15%. According to Steven Greenhouse, writing in the *New York Times*, the average American household's income is 6% lower than it was in 1973, despite the rise of the two-income family.

In terms of percentage increases, the most rewarded dpers this year were people at the high end of the data entry business: in this year's survey, data entry supervisors averaged $19,708, or 11.9% over their last year's salary. Also scoring

Dp professionals in search of top salaries would do well to choose their industries carefully.

big were datacom/telecom analysts, who averaged $31,264, a raise of 10.4% over last year.

JUNIOR ANALYSTS SUFFER

Least likely to find welcome news in their paychecks were junior systems analysts: this year's average salary of $22,769 was 9.4% *lower* than last year's. Managers in systems analysis did better, but not much: their average salary of $40,353 is only $41 higher than last year. Roger O'Connor from Edward Perlin Associates in New York, a consulting firm that has surveyed dp salaries for several years, told DATAMATION that one reason for these changes might be that "fewer and fewer companies have 'standalone' systems analysts." O'Connor says that the trend is toward systems analysts/programmers. Still, the Bureau of Labor Statistics predicts that, over the next decade, systems analysis will be among the top 20 fastest-growing careers in the U.S. In 1984, the most recent year for which there are data, there were 308,000 systems analysts; in 1995, the Labor Department predicts, there will be 520,000 systems analysts, a growth of 68%.

The biggest disparity in a single area between top jobs and beginning positions is found in the systems analysis/programming area. Managers earning an average of $43,312 make more than twice the $21,504 that junior systems analysis/programmers make. These managers did better in terms of raises as well, averaging 8.7% compared with their junior colleagues' raises of 4.3%.

Not surprisingly, the more senior jobs are filled by people with longer experience in dp. For example, the average vice president of dp surveyed had 16.5 years of dp experience, more years than reported for any other job. Next in line is the director of dp/MIS with 15.7 years. Other longtime employees were managers of information centers and data centers with 14 years, managers of systems analysis/programming with 13.3 years, managers of systems analysis with 12.1 years, managers of database administration with 11.9 years, managers of operating systems programming with 11.5 years, computer operations managers with 11.3 years, managers of datacom/telecom with 10.9 years, senior systems analysts with 10.8 years, lead systems analyst/programmers with 10.2 years, managers of applications programming with 10 years, and data entry supervisors with 10 years.

Nor is it surprising that the newest recruits are to found in the junior positions, with junior systems analysts having 3.1 years of experience, junior applications programmers 2.3 years, junior systems analyst/programmers 2.1 years, and junior operating systems programmers three years on the job.

Dp professionals in search of top salaries would do well to choose their industries carefully. Across the board, dpers in the education field earn considerably less than average, in some cases less than half what their highest paid colleagues are earning. On the other hand, dpers in transportation and utilities, dp services, and nonbanking financial services consistently earn more than the average for their positions. For example, vice presidents of dp/MIS on corporate staffs in the transportation or utilities industries averaged $73,267; the same level in the education field got $48,627; and the cross-industry average was $58,466.

The importance of a current buzzword, interoperability—known less recently as connectivity—is made apparent by this year's high average salary for datacom/telecom managers in consumer manufacturing: $60,000, or 41% higher than last

DETAILED JOB DESCRIPTIONS

Respondents to the survey used this job description guide when answering the questions about their earnings.

Corporate staff: reports to senior management within corporation.
Applications programming: develops, designs, and prepares computer programs.
Systems analysis/programming: performs both systems analysis and applications programming.
Operations systems programming: programs, maintains, and introduces modifications to systems software.
Database administration: plans, organizes, and schedules the activities of the database section; establishes standards, maintains dictionary.
Datacom/telecom: develops and designs data communications networks and the installation and operation of data lines.
Computer operations: in charge of equipment, data entry, production control, and postprocessing, but not of systems analysis, applications programming, or other development functions.
Production and I/O control: sets up and schedules jobs for processing so as to maximize utilization and meet turnaround requirements.
Data entry: performs data entry and verification functions.
Office automation: operation of word processing equipment, intelligent typewriters, and terminals for text editing/word processing.

JOB LEVELS

Manager: advanced degree and minimum five years' experience or equivalent combinations; strong management skills, performs personnel evaluations, budgeting, progress reporting, and project management.
Lead: bachelor's degree or equivalent and minimum four years' experience in dp with two of those years in supervisory capacity; performs all levels of supervision as a project manager.
Senior: bachelor's degree or equivalent and minimum three years' experience including some supervisory functions.
Intermediate: bachelor's degree or equivalent and minimum two years' experience; requires direction on some activities.
Junior: two to four years' college and minimum six months' experience or equivalent combination; directly supervised.

METHODOLOGY

The 1986 DATAMATION Salary Survey began in May with a letter sent to 5,000 dp officials in the United States, drawn at random from the magazine's list of 64,000 top managers at computer sites throughout the country. Enclosed with the letter was a four-page questionnaire.

A total of 486 key officials returned completed questionnaires, providing information on salaries, benefits, and perquisites for 47 discrete dp positions in various industries and metropolitan areas.

Information was also collected on work experience, annual dp budgets, and turnover rates, among other factors. About three quarters of the respondents described themselves as dp managers. As shown in the accompanying tables, the most important labor pools covered by the survey were those in Boston, New York (divided into Manhattan and its environs), Philadelphia, Washington, D.C./Baltimore, Atlanta, Denver, Houston, Dallas/Fort Worth, Chicago, Minneapolis/St. Paul, Cleveland, Cincinnati/Columbus, Detroit, St. Louis, Seattle, San Francisco/Silicon Valley, and Los Angeles. The salary and other data were also broken down by industry category.

FIG. 1

ANNUAL SALARY INCREASES

(IN PERCENT)

	EXPECTED IN 1985	ACTUAL 1985	EXPECT IN 1986
Boston	7.9	6.4	6.0
Manhattan	9.9	6.7	8.3
NYC Metro	7.2	7.2	6.8
Philadelphia	7.4	6.7	5.9
Wash./Balt.	7.2	9.2	8.5
Atlanta	7.2	6.2	6.0
Denver	6.3	6.5	5.2
Houston	6.9	5.2	4.5
Dallas/Ft. Worth	6.4	5.8	5.6
Chicago	6.4	6.0	5.6
Minn./St. Paul	6.0	5.2	5.5
Cleveland	6.9	3.6	5.4
Cin./Columbus	6.2	7.5	6.6
Detroit	6.0	7.3	6.6
St. Louis	6.9	7.4	5.2
Seattle	4.8	4.9	6.6
San Francisco	9.6	6.8	7.2
Los Angeles	9.7	6.4	5.9
Total Sample	7.1	6.2	6.0

FIG. 2

BENEFITS AND PERQUISITES

(IN PERCENT*)

	AVAILABLE		IF AVAILABLE, TO	
	YES	NO	MGMT ONLY	MGMT & STAFF
Medical	97.3	1.6	1.9	86.6
Dental	67.3	27.4	2.1	58.6
Disability	84.6	10.9	5.8	71.0
Life Insurance	90.9	6.2	3.9	78.4
Paid Vacation	97.3	1.6	2.3	85.8
Overtime	61.3	29.6	0.4	43.4
Profit Sharing	39.9	45.7	7.8	29.4
Investment Plan	41.2	44.2	2.7	33.7
Stock Options	22.2	56.8	12.8	8.2
Stock Discount	9.1	67.5	1.4	5.8
Pension	70.0	20.4	2.5	61.5
Signing Bonus	8.2	69.1	5.3	2.3
Longevity Bonus	11.7	68.9	1.0	10.1
Club Membership	12.8	67.3	8.2	3.9
Recreational Facilities	13.6	66.7	1.9	10.3
Fitness/Health Programs	16.0	65.0	2.1	11.9

*Answers do not total 100% because of "Don't know/No answer" categories

year's average datacom/telecom manager's salary. The task of tying together the various systems serving the shop floor, inventory control, and management is growing ever more complex, particularly because of new Just-in-time manufacturing methods. But the wide range of salaries in datacom/telecom indicate that the complexity of jobs in this field varies widely.

DATAMATION's survey also confirms that economic conditions vary widely throughout the country. In the '70s, comparisons between the golden sun belt and the beleaguered North made it seem that prosperity had forever shifted to the South. But the collapse of oil prices has again rewritten the scenario. Look at turnover rates: the survey shows that in Houston, the turnover rate has plunged to only 2.2% in the shops we surveyed. Obviously, people are holding on tight to their jobs in the hard-hit capital of the energy business. In the rest of the country turnover rates hover around the 10% mark. But dp workers in

FIG. 3

TURNOVER RATES FOR PROFESSIONAL STAFF

(IN PERCENT)

	1985 (ACTUAL)	1986 (EXPECT)
Boston	10.4	7.4
Manhattan	10.4	6.8
NYC Metro	4.7	6.1
Philadelphia	7.3	4.6
Wash./Balt.	14.7	13.7
Atlanta	5.8	4.9
Denver	10.5	11.4
Houston	2.2	2.5
Dallas/Ft. Worth	17.4	4.9
Chicago	11.1	6.6
Minn./St. Paul	9.8	4.2
Cleveland	5.7	2.3
Cin./Columbus	15.5	1.9
Detroit	6.1	6.4
St. Louis	21.5	12.8
Seattle	10.1	6.7
San Francisco	10.1	6.1
Los Angeles	10.7	7.5
Total Sample	9.4	7.1

Cincinnati/Columbus, Dallas/Fort Worth, and St. Louis are apparently finding new jobs more easily, sending turnover rates in these cities soaring over the 15% mark.

This movement costs money. According to Peter Tamblyn, a consultant with Edward Perlin Associates, "A 400-person data processing shop, for example, could spend as much as $2 million per year in turnover-related expenses."

THE GOOD NEWS AND THE BAD

But the survey reveals a good news/bad news dichotomy in the industry: expected turnover rates in 1986 are well below those reported for 1985. Last year, the average turnover rate was 9.6%; this year, those surveyed expect it to be 7.1%. The good news: lower costs for recruiting and training. The bad news: dp workers are not optimistic that improved economic conditions will make job moves easy. This drop in turnover rates is confirmed by another survey, one conducted by the American Electronics Association, Palo Alto. The turnover rate for 1985 was the lowest in five years. "The national turnover rate continues to fall as the electronics industry matures and consolidates," says Celeste Mahoney, AEA surveys manager.

But there is better news in some of the numbers: a few more dpers are working this year at DATAMATION's survey sites. In 1985, the total average number of employees at each surveyed site was 65.6; for 1986, the average number is 67.3. A recent survey by the Data Processing Management Asso-

FIG. 4

AVERAGE SALARY BY REGION

(IN $)

	ALL	BOSTON	MANHAT	NYC AREA	PHILA	WASH/ BALT	ATLANTA
CORPORATE STAFF							
Vice President	58,466	69,471	60,000	43,750	56,429	53,800	62,000
Director of Dp/MIS	47,974	55,916	46,600	50,733	49,893	53,582	48,854
Technical Services Manager	45,192	50,750	54,000	42,000	41,600	50,300	37,500
Information Center Manager	40,328	45,950	59,000	45,060	43,167	40,996	34,500
Director of Security	37,378	NA	NA	NA	NA	31,000	30,000
SYSTEMS ANALYSIS							
Manager	40,353	39,081	NA	29,750	46,600	45,782	34,225
Senior Systems Analyst	36,903	38,179	NA	31,667	34,500	39,878	34,000
Lead Systems Analyst	34,850	36,500	NA	NA	31,000	36,146	32,000
Systems Analyst	29,632	28,667	NA	32,000	28,267	30,063	28,931
Junior Systems Analyst	22,769	19,500	NA	NA	NA	22,000	22,000
APPLICATIONS PROGRAMMING							
Manager	41,121	39,675	40,000	NA	41,200	48,457	30,250
Lead Application Programmer	33,167	32,475	25,000	25,000	32,125	38,355	38,333
Senior Application Programmer	30,824	28,000	26,000	28,100	32,286	33,383	NA
Application Programmer	24,929	22,625	19,000	26,045	27,500	25,904	26,900
Intermediate Application Programmer	25,792	19,000	18,000	19,200	27,250	23,397	18,000
Junior Application Programmer	20,396	22,000	NA	19,000	20,400	18,407	19,653
SYSTEMS ANALYSIS/PROGRAMMING							
Manager	43,312	47,160	42,750	49,400	38,763	46,100	35,967
Lead Systems Analyst/Programmer	36,548	38,100	36,750	46,314	34,500	39,224	36,000
Senior Systems Analyst/Programmer	33,207	33,975	38,000	36,470	31,143	36,900	36,320
Systems Analyst/Programmer	29,309	29,733	41,000	30,653	26,188	34,100	33,000
Intermed. Systems Analyst/Programmer	24,961	28,300	32,000	NA	22,900	26,650	27,100
Junior Systems Analyst Programmer	21,504	22,733	22,000	25,635	17,167	22,800	21,500
OPERATING SYSTEMS PROGRAMMING							
Manager	42,848	45,950	NA	38,000	46,000	42,000	NA
Senior Systems Programmer	38,759	42,700	47,000	35,000	36,025	42,783	37,960
Intermediate Systems Programmer	30,558	37,100	NA	NA	26,575	42,000	28,300
Junior Systems Programmer	23,054	31,200	NA	NA	19,500	23,773	NA
DATABASE ADMINISTRATION							
Manager	42,046	38,600	NA	27,500	47,550	43,724	NA
Database Administrator	33,018	33,900	NA	55,000	32,000	26,667	30,000
DATACOM/TELECOM							
Manager	43,921	44,650	NA	38,000	NA	NA	NA
Analyst	31,264	41,600	NA	42,000	40,000	35,363	27,000
COMPUTER OPERATIONS							
Manager	30,087	35,010	38,333	29,832	33,922	37,955	29,875
Shift Supervisor	25,022	31,400	30,500	26,450	26,375	27,400	20,667
Lead Computer Operator	19,860	22,792	17,700	22,600	20,210	21,110	16,800
Computer Operator	16,865	18,444	17,625	18,202	17,098	17,522	15,639
Magnetic Media Librarian	16,613	NA	NA	18,000	12,000	18,000	15,000
PRODUCTION AND I/O CONTROL							
Supervisor	27,019	35,867	24,000	NA	26,000	31,467	20,000
Lead Production Controller	22,935	27,800	29,000	30,000	NA	18,000	NA
Scheduler	21,060	NA	28,000	NA	29,000	28,000	NA
Control Clerk	15,894	16,033	19,250	14,067	14,344	18,933	18,500
DATA ENTRY							
Supervisor	19,708	19,029	25,500	20,750	20,167	31,367	13,000
Operator	14,782	14,512	16,000	15,317	14,655	16,244	12,632
OFFICE AUTOMATION							
Word Processing Supervisor	25,092	29,625	40,000	NA	NA	25,000	18,000
Word Processing Operator	15,888	15,545	25,000	14,750	NA	16,000	16,000
Microcomputer User Services Specialist	22,969	20,667	27,500	25,000	29,750	20,667	20,000
DOCUMENTATION							
Specialists	22,318	19,483	NA	NA	34,000	19,805	25,000
Consultant	34,421	31,000	NA	36,000	NA	NA	26,000
Pc Evaluator	23,279	15,000	NA	NA	30,000	30,000	NA

DENVER	HOUS-TON	DALLAS	CHI	MINN/ ST. PL	CLEVE	CIN/ COL	DTRT	ST. LOU	SEATL	SAN FRAN	LOS ANGEL
57,314	53,750	75,000	62,500	NA	NA	57,793	62,333	71,500	47,500	51,833	64,159
51,640	56,289	51,689	42,333	39,840	46,667	43,272	54,900	47,743	47,333	53,360	51,507
38,000	45,283	48,567	46,333	45,000	50,760	37,000	54,667	54,000	50,000	32,500	47,561
NA	42,500	33,350	38,667	24,600	40,000	30,000	43,200	47,333	24,000	40,800	44,188
NA	NA	NA	NA	NA	NA	NA	NA	55,000	NA	NA	NA
42,250	46,000	40,900	44,333	26,300	43,860	NA	45,000	43,750	30,000	33,036	45,188
39,467	44,500	42,600	32,729	38,750	35,000	38,398	37,667	40,250	41,000	34,400	40,677
33,200	41,900	36,000	36,735	NA	NA	30,000	NA	26,000	28,000	42,500	39,969
33,000	38,000	29,000	32,750	25,000	33,600	NA	34,000	25,000	NA	28,000	30,684
22,000	NA	30,000	20,000	NA	NA	NA	NA	20,000	NA	NA	24,900
44,500	39,746	55,333	41,000	36,000	42,840	53,712	NA	38,000	NA	40,000	39,051
34,500	56,200	38,167	35,500	NA	30,800	NA	29,500	33,000	NA	24,000	42,500
31,500	38,875	29,575	28,000	NA	NA	34,898	29,250	31,642	NA	34,500	35,625
27,000	25,362	24,120	24,067	19,500	23,150	40,416	22,667	23,344	23,792	36,750	26,535
22,000	NA	NA	23,333	NA	32,000	36,204	NA	24,200	NA	33,250	29,000
NA	28,200	23,000	21,833	22,000	NA	32,700	18,000	16,500	21,000	26,250	20,675
42,000	47,250	30,000	40,000	45,667	33,000	39,700	54,000	43,000	NA	56,667	47,110
37,857	35,000	38,200	31,000	38,333	26,000	30,000	38,400	32,525	NA	37,290	42,258
31,000	35,250	25,000	28,500	33,750	18,000	29,449	36,363	36,275	NA	36,341	38,941
29,590	29,250	35,000	28,000	30,500	NA	29,305	30,650	27,175	26,648	33,516	34,397
27,457	25,500	26,500	21,060	23,903	14,000	36,204	24,258	21,000	NA	24,000	29,614
24,026	23,000	23,500	24,000	20,500	NA	20,000	29,000	18,800	NA	23,000	25,918
49,000	NA	35,000	37,500	46,000	NA	40,000	NA	39,000	NA	54,000	47,647
34,486	41,500	37,000	34,000	39,000	46,200	40,000	47,805	43,200	40,000	32,000	41,854
30,500	23,000	NA	NA	29,000	30,000	35,208	42,000	27,000	NA	NA	38,330
NA	NA	28,000	16,000	20,000	NA	20,000	38,000	10,400	NA	23,000	30,471
35,000	51,000	60,000	37,000	NA	45,000	NA	54,000	36,000	NA	42,500	46,970
30,806	32,000	NA	24,500	23,000	32,500	44,796	39,500	30,000	30,000	31,000	39,903
37,000	NA	30,000	NA	30,000	NA	NA	NA	60,000	NA	70,000	43,593
26,500	NA	50,000	24,360	25,000	NA	18,800	39,000	38,025	NA	40,000	31,674
32,150	39,000	26,500	27,545	26,833	24,200	33,800	28,750	30,220	36,500	27,500	35,978
26,440	26,250	23,333	17,400	23,333	15,000	33,102	24,867	19,250	21,000	28,279	26,675
21,250	20,333	21,600	19,133	19,080	17,667	16,500	20,333	18,150	24,584	21,500	21,649
16,528	18,422	17,500	16,610	15,114	16,225	17,365	19,456	15,175	18,333	18,589	19,772
NA	23,200	NA	NA	NA	17,500	NA	21,000	15,000	NA	NA	22,500
28,000	NA	28,000	17,300	NA	NA	NA	22,667	26,500	NA	40,000	25,837
22,000	NA	22,750	30,000	NA	NA	NA	22,000	NA	20,000	NA	26,076
18,500	20,000	25,000	NA	NA	NA	NA	24,000	NA	NA	NA	20,975
17,480	23,000	NA	15,625	NA	15,720	NA	15,501	15,400	NA	15,350	19,233
19,944	15,000	15,625	23,500	16,000	17,750	17,000	28,000	18,417	15,000	20,557	22,517
12,143	15,974	13,167	18,125	13,972	13,667	15,000	16,060	13,463	18,000	16,746	16,970
17,999	26,000	27,000	NA	19,781	NA	NA	NA	24,125	NA	21,500	20,674
15,652	19,550	NA	12,275	10,753	13,500	NA	15,000	16,000	18,000	22,750	16,855
NA	20,000	16,000	19,167	NA	NA	NA	34,000	28,000	NA	NA	NA
12,000	25,500	29,000	NA	28,000	22,000	NA	NA	16,100	NA	16,500	24,000
27,550	35,000	48,000	40,000	NA	45,000	24,000	NA	18,000	21,000	42,667	34,000
26,000	25,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

FIG. 5

AVERAGE SALARY BY INDUSTRY

(IN $)

	ALL	CONSUM MFG	INDUS MFG	BANK	FINAN	DP SERV	OTHER SERV
CORPORATE STAFF							
Vice President	58,466	55,600	58,750	43,563	64,182	59,614	62,600
Director of Dp/MIS	47,974	50,624	48,286	43,000	48,367	57,782	51,727
Technical Services Manager	45,192	42,356	43,076	44,850	51,020	47,667	44,500
Information Center Manager	40,328	39,364	40,307	24,600	41,700	46,667	40,333
Director of Security	37,378	42,500	38,500	NA	40,950	32,500	NA
SYSTEMS ANALYSIS							
Manager	40,353	38,400	36,738	41,250	49,200	40,345	42,000
Senior Systems Analyst	36,903	34,947	38,533	38,000	39,904	38,250	37,750
Lead Systems Analyst	34,850	33,198	36,934	NA	40,000	35,667	NA
Systems Analyst	29,632	26,613	27,934	30,000	34,825	32,667	30,000
Junior Systems Analyst	22,769	19,500	21,340	22,000	NA	21,500	25,000
APPLICATIONS PROGRAMMING							
Manager	41,121	38,759	42,728	NA	43,317	41,333	60,000
Lead Application Programmer	33,167	32,433	27,725	25,000	36,229	40,000	41,600
Senior Application Programmer	30,824	27,013	29,963	21,000	32,680	33,000	28,500
Application Programmer	24,929	25,232	25,029	20,084	26,029	28,125	24,800
Intermediate Application Programmer	25,792	21,976	27,341	NA	27,500	26,000	NA
Junior Application Programmer	20,396	16,373	22,987	NA	20,214	18,875	16,000
SYSTEMS ANALYSIS/PROGRAMMING							
Manager	43,312	42,673	39,387	NA	42,823	47,977	37,720
Lead Systems Analyst/Programmer	36,548	32,243	34,929	50,000	35,165	40,495	34,750
Senior Systems Analyst/Programmer	33,207	32,313	33,604	29,500	32,200	34,035	36,344
Systems Analyst/Programmer	29,309	27,493	30,301	28,296	29,675	30,605	26,500
Intermed. Systems Analyst/Programmer	24,951	25,660	27,823	26,000	25,684	25,489	22,500
Junior Systems Analyst/Programmer	21,504	19,300	22,436	NA	21,571	20,675	22,500
OPERATING SYSTEMS PROGRAMMING							
Manager	42,848	40,760	39,250	NA	46,593	43,000	70,000
Senior Systems Programmer	38,759	35,203	38,115	NA	37,363	42,500	50,000
Intermediate Systems Programmer	30,558	27,217	32,683	NA	31,948	35,000	27,500
Junior Systems Programmer	23,054	28,833	25,000	NA	25,275	22,000	21,000
DATABASE ADMINISTRATION							
Manager	42,046	40,928	52,000	NA	NA	41,417	NA
Database Administrator	33,018	33,843	32,328	NA	27,444	44,000	NA
DATACOM/TELECOM							
Manager	43,921	60,000	30,000	37,000	45,900	42,667	NA
Analyst	31,264	32,043	31,280	21,000	28,616	40,000	30,000
COMPUTER OPERATIONS							
Manager	30,087	31,847	29,638	21,000	32,232	30,167	31,600
Shift Supervisor	25,022	24,151	25,930	12,850	24,600	30,000	33,000
Lead Computer Operator	19,860	20,892	19,790	17,389	20,899	21,667	16,580
Computer Operator	16,865	16,692	17,395	14,480	17,537	16,800	17,109
Magnetic Media Librarian	16,613	15,375	17,500	14,000	15,667	18,500	NA
PRODUCTION AND I/O CONTROL							
Supervisor	27,019	22,500	27,375	NA	31,860	23,500	30,333
Lead Production Controller	22,935	18,993	23,125	NA	21,500	20,000	32,000
Scheduler	21,060	16,700	25,000	NA	22,000	24,000	24,000
Control Clerk	15,894	15,850	14,714	NA	17,632	18,000	16,500
DATA ENTRY							
Supervisor	19,708	21,072	17,738	9,500	23,700	23,600	20,000
Operator	14,782	14,485	15,476	9,030	15,243	15,333	15,043
OFFICE AUTOMATION							
Word Processing Supervisor	25,092	30,000	36,100	NA	23,125	22,000	19,500
Word Processing Operator	15,888	20,000	15,173	NA	16,861	16,250	15,000
Micro. User Services Specialist	22,969	25,277	24,800	NA	15,000	15,000	16,000
DOCUMENTATION							
Specialists	22,318	20,611	27,300	NA	NA	21,000	21,867
Consultant	34,421	43,034	35,000	NA	27,600	46,000	49,000
Pc Evaluator	23,279	15,000	25,000	NA	24,000	NA	23,500

DISTRB	GOVT	MED/ LEGAL	TRANS/ UTIL	EDUCA	ANNUAL SPENDING <$1M	ANNUAL SPENDING >$1M	FORTUNE CO'S
55,167	59,421	57,667	73,267	48,627	51,382	69,332	71,771
46,643	43,155	45,794	58,732	39,268	41,966	58,628	51,805
45,700	42,115	42,979	49,000	NA	39,979	47,286	46,985
36,267	39,748	38,000	45,900	32,648	36,354	43,910	45,236
NA	28,000	38,000	NA	NA	35,000	37,675	41,167
37,108	41,385	42,150	42,575	35,000	34,973	45,459	45,592
36,470	35,203	33,000	42,560	27,350	33,951	39,543	39,581
NA	34,235	41,900	NA	33,200	34,124	35,501	35,567
30,000	29,633	23,000	35,500	26,667	27,624	31,485	29,966
28,167	23,696	20,000	22,000	NA	20,509	24,592	22,500
40,000	41,370	41,133	25,000	27,500	35,685	45,824	41,743
30,250	34,014	37,300	35,100	25,500	31,240	35,414	33,176
29,750	31,133	38,375	32,075	27,213	27,895	33,481	32,528
25,282	23,369	21,251	24,700	20,367	23,066	27,459	28,109
18,633	32,359	24,000	NA	21,000	22,761	29,112	27,386
19,000	20,708	28,200	21,333	18,750	20,132	20,743	22,098
41,700	40,514	43,180	56,933	37,233	40,650	40,060	46,588
39,446	37,566	35,667	46,632	30,044	34,245	38,741	38,183
33,391	32,687	33,240	37,569	24,431	30,945	35,910	35,832
29,655	26,902	26,957	39,281	27,367	27,694	30,910	30,953
24,667	23,427	22,530	32,550	20,452	22,832	27,218	26,767
23,233	19,830	22,000	25,168	20,500	19,210	22,879	22,813
36,500	40,207	43,125	52,150	39,000	39,891	44,477	46,575
37,250	36,470	39,333	46,100	NA	32,706	40,157	39,948
33,533	29,438	30,000	37,100	21,775	27,804	32,096	32,150
20,467	22,594	20,000	24,600	15,000	18,101	24,860	26,525
40,000	40,312	29,750	47,260	NA	37,750	43,077	46,682
38,500	30,093	NA	43,300	NA	35,138	32,912	35,317
NA	40,390	NA	44,150	NA	38,000	45,698	54,060
34,333	27,424	21,500	36,063	18,720	24,816	33,199	36,041
31,753	28,694	25,011	33,156	26,517	26,104	34,123	35,041
22,980	24,412	22,167	31,057	23,000	22,077	26,517	27,416
19,496	19,939	17,261	22,242	18,114	18,544	21,459	20,791
16,230	17,091	16,084	18,060	16,267	15,976	18,261	17,997
12,500	17,590	19,100	NA	NA	14,833	17,143	17,563
25,500	24,540	20,616	52,600	NA	24,456	27,749	29,025
27,767	18,098	22,000	36,600	12,000	17,995	23,876	26,470
NA	18,546	28,000	NA	NA	18,500	21,572	21,200
11,875	16,455	15,292	18,622	15,002	14,547	16,735	17,498
16,068	18,453	18,151	25,500	19,833	16,955	23,053	22,814
13,382	14,061	14,217	17,923	12,000	14,337	15,815	15,553
NA	26,360	31,563	18,250	18,594	20,715	28,714	27,575
16,111	13,944	20,013	17,820	10,377	15,668	16,502	18,960
NA	21,139	24,167	30,000	22,333	22,965	22,973	25,716
26,900	**18,381**	**28,625**	**16,100**	**15,000**	**18,886**	**24,034**	**24,844**
36,000	**23,843**	**NA**	**NA**	**23,860**	**34,841**	**30,633**	**34,267**
NA	**21,255**	**NA**	**NA**	**NA**	**20,667**	**24,702**	**25,500**

ciation, Park Ridge, Ill., shows that 62% of U.S. corporate dp/MIS staffs are maintaining staff levels and that almost a third of all shops are currently adding staff. Half the new jobs will be for programmers, about a fourth for systems analysts, and the rest for database, information center, and telecommunications specialists. But Korn/Ferry International, a company specializing in executive placement, says that the slump in the computer industry has "depressed the demand for senior technology executives." According to the company, high-tech execs accounted for 14% of national executive hiring during the second quarter of 1986, down from 19% the year before.

Temporary employees have become much more important in the plans of the dp shops DATAMATION surveyed. Last year, the average site had used 4.8 temporary employees in 1984 and expected to use 7.1 in 1985. But this year's survey revealed that the actual number of temporary employees hired during 1985 had soared to 11.5. This year, the average site expects to hire 11.6 temporary employees. The biggest users of temporary employees are shops in Boston, Manhattan, Dallas/Fort Worth, and Cincinnati/Columbus.

The survey revealed that perks remain important in the overall scheme, with not much change in their availability from previous years. More than 90% of all dp workers are covered for medical expenses and get paid vacations and life insurance. About 85% are eligible for company disability plans. Between 60% and 70% are eligible for company pension plans, dental coverage, and overtime pay. About 40% can participate in profit sharing and/or investment plans. Much less widely available is the signing bonus for accepting a job—8.2%—and the longevity bonus for extended service—11.7%. And while fitness and health programs are everywhere in the news, they are rarer in real life, available to only 16% of the dp workers we surveyed.

The sorts of perks available can vary widely from area to area. Fitness and health programs, for example, are much more likely to be available—to between 20% and 32% of those surveyed—in Manhattan, Atlanta, Dallas/Fort Worth, and San Francisco. Recreational facilities are big in Atlanta—45%—and Seattle. And club memberships are furnished more often in Cleveland, Atlanta, and Washington, D.C./Baltimore. ◉

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A mature independent service industry now often competes head-to-head with manufacturers on quality of service.

THIRD-PARTY MAINTENANCE GROWS UP

by E.S. Ely

Third-party maintenance has long been perceived by large users as something for the little guys—cheaper perhaps, but less reliable and laden with risks that few were willing to take, including the specter of breaking ties with a valued manufacturer.

But all that is now changing. Large corporations are jumping over to third-party maintenance—which is maintenance provided by a firm that is neither the manufacturer nor the end user of the equipment it services—in record numbers, according to industry observers. Moreover, many third-party maintenance firms are broadening the range of equipment they can service—from micros, minis, and peripherals to mainframes—and thereby are becoming even more attractive to these users. Third-party firms now account for 10% of the $13.2 billion maintenance market.

"Third-party or independent maintenance has become respectable among even major corporations," says D. Roger (Mike) MacNaughton of Business Development International, a Franklin Lakes, N.J., consulting firm. He notes that the largest third-party firms (see Fig. 1) are typically owned by major corporations. Sorbus (Fraser, Pa.), owned by Bell Atlantic, is the second-largest third-party concern after TRW's Customer Service Division (Fairfield, N.J.); Sorbus reports that an increasing share of its business is from large users, and it is talking to more and more of them. "Previously, we couldn't get in the door," says Mike Chamberlain, vice president of operations.

This new respectability is clearly reflected in the industry's growth. Sales totals for independent service firms in 1985 climbed almost 17% over 1984, to $1.33 billion from $1.14 billion, according to Input Inc. of Mountain View, Calif. The growth of the independents' business outpaced that of the overall service market, which, at $13.2 billion, was up 14%. (A total of $6.1 billion was handled by IBM alone, says analyst Rebecca Segal of International Data Corp., Framingham, Mass.) Input predicts that independent service will grow 18% a year for the next five years, for sales of $3 billion in 1990, against a 17% annual growth for the overall service sector.

Such rosy predictions are a recent phenomenon for the third-party maintenance industry, which did not even exist as a business category 17 years ago. In 1969, two former IBM field engineers founded Comma Corp., perhaps the first independent firm wholly dedicated to service. (Comma was absorbed into CDC's IBM service arm in 1973.) Third-party maintenance established a foothold in the service market in the mid-'70s with the explosive growth of minicomputers and the advent of the mixed shop, which some manufacturers refused to service. By 1982, revenues had reached $570 million and were growing by 20% annually, according to New York market research firm Frost & Sullivan Inc. Then came the microcomputer boom. IBM initially left service of its PC to retailers and independents, refusing to service PCs carrying non-IBM peripherals. This left many users with no choice but to go third party (see "Who's Maintaining the Micros?" April 15, p. 82).

GROWTH SHOWS — MATURITY

The current growth of third-party maintenance, say industry experts, is a measure of its dramatic maturation into a sophisticated industry that now often competes head-to-head on quality of service. At least a dozen maintenance firms have nationwide networks of service centers, with elaborate parts-tracking and delivery systems. Some even provide software support. Indeed, many service firms are actively marketing just the sort of hand-holding that users had long identified with industry leader IBM—and they're finding willing listeners.

Also pushing large users to independent maintenance are rising service costs and increasing budgetary pressures from upper management. Savings realized by replacing standard manufacturers' service with a third-party agreement average 20% but, according to several users, can run above 40% on some equipment.

Following closely behind the initial considerations of price and quality, a big draw of third-party maintenance is the promise of having one party responsible for all that can go wrong in a user's system, ending the chronic and costly finger-pointing that goes on when half a dozen vendors are on-site. "People want hand-holding," says Jim Price, founder of Pritronix, a 135-employee firm based in Dallas. "They want to know they can make one phone call and someone is going to take care of the problems."

In addition, independents will often customize service to user needs, whereas manufacturers tend to balk at service requirements outside the standard contract. That's their competitive leverage, says consultant William J. Herbert, president of Coordinated Services, Littleton, Mass. "[The independent] will say, 'I'll offer you [more than what's standard],' or 'I'll give you service outside 9 a.m. to 5 p.m. because you're this kind of operation.' "

Another advantage users find with a third-party firm is that existing service contracts become less of a factor when they are purchasing new equipment; some users feel more at liberty to look beyond their existing product bases and make purchase decisions on purely technical merits when they

FIG. 1

LEADING MAINTENANCE FIRMS

SHARE	1985 TPM REVENUES ($ MILLION)	% OF MARKET
TRW (Customer Service Division)	232	17
Sorbus	202	15
CDC (Engineering Division)	110	8
***RCA Services**	86	7
***GE Information Services Co.**	68	5

Note: Intelogic Trace, the independent service firm that was spun out of Datapoint and Mohawk Data Sciences in July 1985, reported $160 million in service revenues in 1985, at least 90% of which were derived from a six-year exclusive agreement to service Datapoint products.

*GE and RCA announced a friendly merger in December 1985.

Source: Input estimates.

needn't worry about cluttering their shops with another maintenance firm. Third-party industry leader TRW services equipment sold by 45 different manufacturers and 2,300 resellers; second-ranked Sorbus services more than 400 "brands" of different equipment. (Together, these two firms accounted for 32% of the 1985 third-party maintenance market, according to Input figures.)

Indeed, many third-party firms these days are marketing themselves as customer advocates in the often bewildering new-product marketplace, available to test and help select equipment that fits the user's needs without vendor bias. Lomas & Mettleton of Dallas, the nation's largest provider of mortgages, routinely calls Pritronix when it thinks of adding new equipment. The maintenance firm then examines the need, tests various products, and makes a recommendation. Recently, it looked into laser printers at Lomas & Mettleton's request.

Manufacturers, understandably nervous, are beginning to fight back. They are putting more effort behind marketing their maintenance, and they're working to boost efficiencies in service delivery. Maintenance is no longer perceived as a stepchild for sales, says Input senior analyst Rick Brusuelas, but a bona fide product on its own, with strong profit potentials. "Nowadays," observes BDI's MacNaughton, "manufacturers are wheeling and dealing for maintenance business that they once considered all but their right."

IBM, for example, has quietly begun to offer a so-called enterprise maintenance agreement providing a 15% discount to select customers who have agreed to put most or all of their IBM equipment on contract. The program is a direct strike at independents, IDC's Segal believes. "Most of the people who were offered the program were considering third party," says Segal. IBM has also begun to service non-IBM peripherals adapted to IBM PCs. In June, it began to offer a three-year warranty on its 3270 terminals, a move that could cripple some independents.

SERVICE QUALITY IMPROVING

These and other similar measures, along with the entry into third-party maintenance of manufacturers like Honeywell and NCR, represent a boon for users. Quality of service is improving across the board, some contend, as the bidding intensifies. "Competition is a bear, and prices are being driven down," says consultant Herbert.

Large users, in explaining their third-party decisions, often cite some level of dissatisfaction with the quality of manufacturer-provided service. Price was less of a factor, at least going into the deal.

Users commonly found that quality service was maintained for top-of-the-line processors but that manufacturers were increasingly less inclined to give quality service for smaller pieces, such as peripherals, terminals, and micros, where returns were smaller. Prices for maintenance of older equipment were being raised, in apparent efforts to sell new machines. And manufacturers openly balked at touching other manufacturers' equipment, at a time when

THIRD-PARTY ADVICE: HOW TO SHOP

In selecting an independent service firm, common sense generally applies. Even so, a few rules come up so often in interviews with users that they seem worth repeating.

Don't shop for the lowest price. The idea is to get the best service for the dollar. Look for superior service from a firm that is willing to tailor its work to your company's needs. The most satisfied users appear to be those who passed over the lowest bidder for a firm in the middle or near the top of the bidding.

Don't be reluctant to pit manufacturer against independent to drive the price down. Manufacturers are much more anxious to deal these days. It works, says D. Roger MacNaughton of Business Development International, a Franklin Lakes, N.J., consulting firm, and "more managers ought to do it."

Don't choose a large independent with nationwide facilities just because your company is spread across a number of states. Except for users whose equipment includes a far-flung private network—in which case the advantages of a nationwide service operation are obvious—it is often better strategy to leave the selection to local managers. They can pick an independent who will serve the needs of their individual sites, who ideally will be anxious for the business, and who might well drive the price down.

When looking at the larger firms, interview the local service staff who will actually do the work. Even the largest independents, like manufacturers, have weak offices. Donald H. Bow, of Wickes Cos. Inc., Santa Monica, Calif., when considering TRW, says he reviewed the résumés and interviewed the field engineers who were to service Wickes' equipment.

Henry Hortenstine, executive vp of Lomas & Nettleton, Dallas, says that his firm chose local Pritronix over national independents despite a higher bid because L&N had already used the firm, trusted its principals, and was attracted to its wide range of customized services. The mortgage firm was installing a pc network in 110 offices around the country and Pritronix offered a complete turnkey installation and maintenance package.

Put the service firm on trial with a pilot facility. "It's time-consuming, but it's worthwhile," says one Midwest manager who tested an independent for six months before signing. "With a pilot, you make sure they produce."

Make sure the contract calls upon the independent to pay the cost of recertifying the equipment to manufacturer standards. This protects you in case the deal doesn't work out and the user has to return to the manufacturer for service.

Above all, know what you need. Users, say consultants, are so used to accepting standardized service packages from manufacturers and then grumbling about them that they have difficulty determining what services they truly need.

"Take a real good look at your operation," advises James A. Vance, vice president of processing services at Miami-based Southeast Bank, Florida's second largest bank. The bank contracts with Technical Support Services Inc. of Ossining, N.Y. "Know what you want, and go get it. The key to third-party maintenance is knowing what you need. If you know, and you have confidence in yourself, you can manage the vendor." —E.S.E.

Third-party firms now account for 10% of the $13.2 billion maintenance market.

the large-user market was increasingly multivendor.

Illinois Central Gulf Railroad in Chicago began moving away from IBM six years ago because of dissatisfaction with terminal maintenance. "The terminal market seemed to be their lowest priority," recalls Larry T. Walsh, director of data processing. "It was not unusual to have a terminal down one or two or three days."

Initially, Walsh was concerned that IBM would respond with service cutbacks if the railroad went with a third party. Walsh says IBM personnel told him he was making a big mistake and that the third-party route couldn't offer the quality of support IBM provided. "But I weighed the lesser of the two evils and figured I've got trouble with them [IBM] now anyway." IBM's service neither declined nor improved, says Walsh.

The railroad signed with TRW in 1980. It has been so pleased that it has since awarded additional business to the firm, most recently an IBM 4341 cpu. Soon it will assign another 210 terminals to TRW. Says Walsh, "TRW's service is superior, and I don't have to deal with IBM's hierarchy."

Savings for large users can prove considerable. Walsh says maintenance costs have been cut 39% on the terminals and between 15% and 20% on other equipment. Baxter Travenol Laboratories Inc., the huge medical supplier based in Deerfield, Ill., has seen savings of between 30% and 40% on equipment it assigned to Dataserv (Hopkins, Minn.) a year ago, says Jim Bindon, operations administration manager for subsidiary Travenol Laboratories. "Being in the hospital business today, we're facing a strong cost push," he says.

Cost-cutting was the sole reason for Wickes Cos. Inc., a $4 billion diversified manufacturing and retailing concern based in Santa Monica, Calif., to switch. Wickes was pleased with IBM's maintenance, but costs were rising yearly at a disquieting 7% to 8%, recalls Donald H. Bow, director of computer management and planning. Wickes signed TRW to handle its Chicago area service, including mainframes, and Bow says it has seen substantial savi[illegible] "in excess of $500,000 a year," with service equal to or better than that from IBM.

Still, independent maintainers are a long way from securing a hold on users' large mainframe processors. A recent study by Input found that half of the users surveyed who used third-party maintenance for their large systems intended to reduce their commitment, at least for their large systems; only 25% said they planned to increase their usage. This should not come as a surprise; independents face their stiffest price competition in the large-systems arena, and few can match the sheer numbers of skilled technicians supplied by manufacturers. Input analyst Brusuelas observes that independents, as a rule, are not adept at providing the nonhardware services that large-system users take for granted: the software support, the consulting, the planning, and installation services.

BUNCH PROTECT TURF

Moreover, independents are largely precluded from servicing the newer, more sophisticated large systems. Manufacturers such as Burroughs and Honeywell, anxious to protect their turf, typically refuse to provide the full technical documentation that's needed to maintain their high-end equipment. NCR refuses to sell parts for its equipment to third-party firms. "With state-of-the-art BUNCH equipment, the user almost has to stay with the manufacturer," says consultant Herbert.

Independents can buy parts from IBM, but the technology on larger systems is so complex that it may take years for the independent to get up to speed, at a huge investment. When customers of Sorbus, which claims to be the largest maintainer of IBM equipment after IBM, require maintenance with the new Sierra series, Sorbus calls in Big Blue.

As a practical matter, the best candidates among large users for independent maintenance are those with a mixed vendor shop centered around processors that have already established their positions in the market. These users will see the largest overall savings. Manufacturers, notably IBM, are inclined to charge more for servicing older equipment. Parts for established equipment tend to be more widely available and far less expensive than parts for this year's state of the art.

The ideal third-party arrangement, of course, is one vendor overseeing the entire shop. But this is rare; only 7% of large users in a recent IDC survey had contracted cpu maintenance to a third party, reports IDC's Segal. The more common arrangement is a paired configuration, with the manufacturer handling the cpus and related equipment and the independent handling everything else. This reflects the strong hold manufacturers still have over larger equipment.

In the coming years, as the industry continues to mature, third-party maintenance will take on even more of the attributes and offerings of the manufacturers it vies to replace, analysts say. The less capable will be driven from the market, and pricing will even out as manufacturers adjust to try to keep their customers.

Most significantly, third parties will push harder into software. Software support, in many users' minds, remains the weak link for manufacturers, says Input analyst Brusuelas, and it's becoming a primary focus of concern as hardware improves. "The whole industry is moving in that direction," he says.

He sees independents setting up telephone support, problem databases, training, consulting, and documentation support, working with users all the way up to the actual software coding. But it will be slow going, he says, as they struggle with the patchwork software common to so many users. "[Software] will be a tough market to get into," says Brusuelas. ◉

"A handshake's good enough for me, Jack. This whole meeting's on videotape anyway."

CARTOON BY NICK HOBART

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